

KENWOOD
HI/FI STEREO COMPONENTS

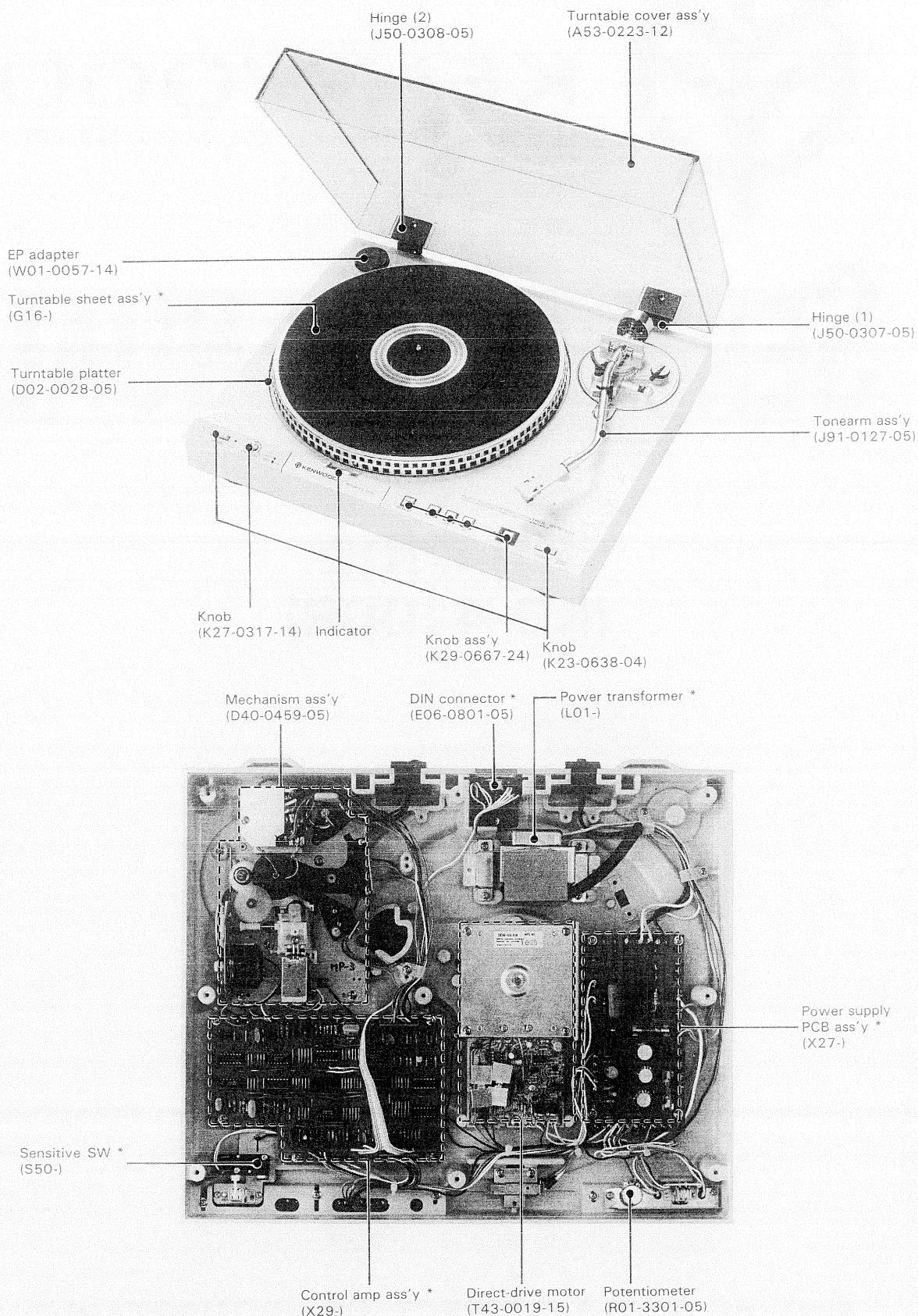
SERVICE MANUAL

**KD-4100
(KD-4100R)**



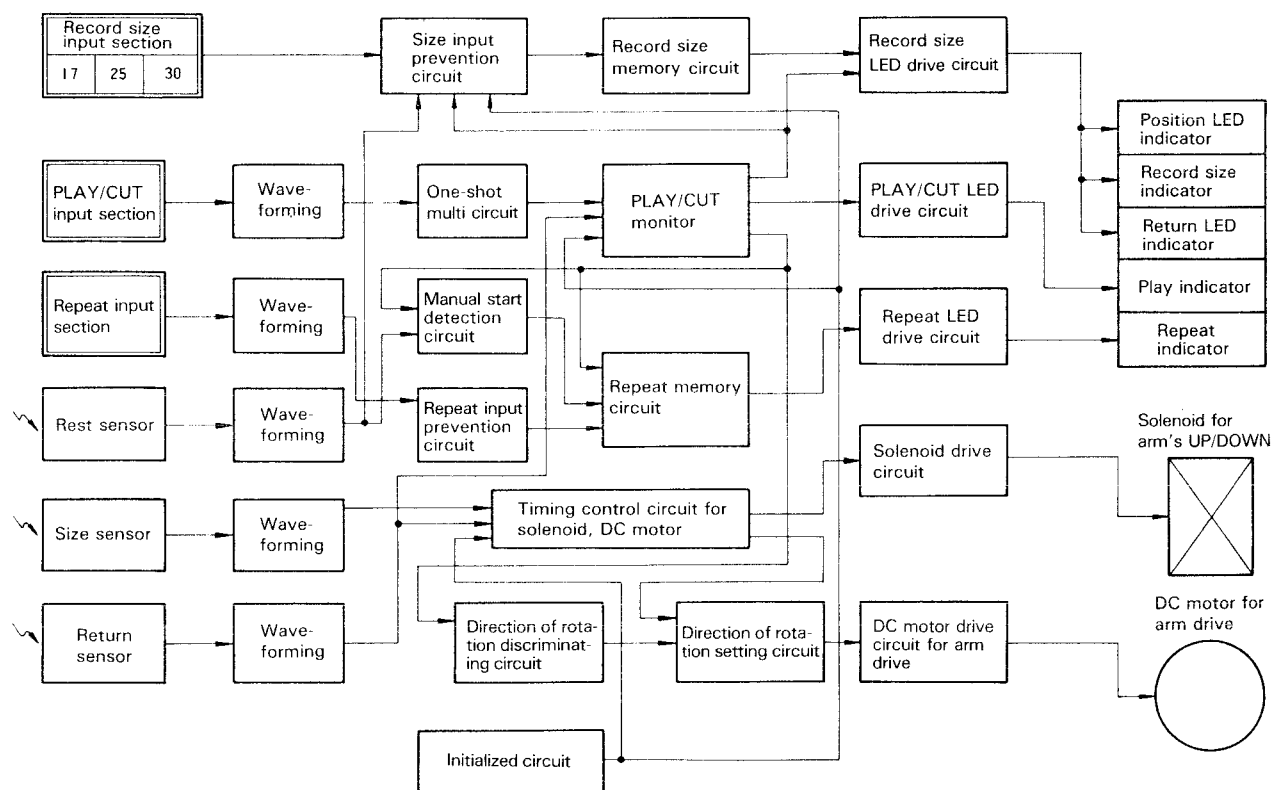
FULL AUTOMATIC DIRECT- DRIVE TURNTABLE

EXTERNAL AND INTERNAL VIEW



* Refer to Parts list.

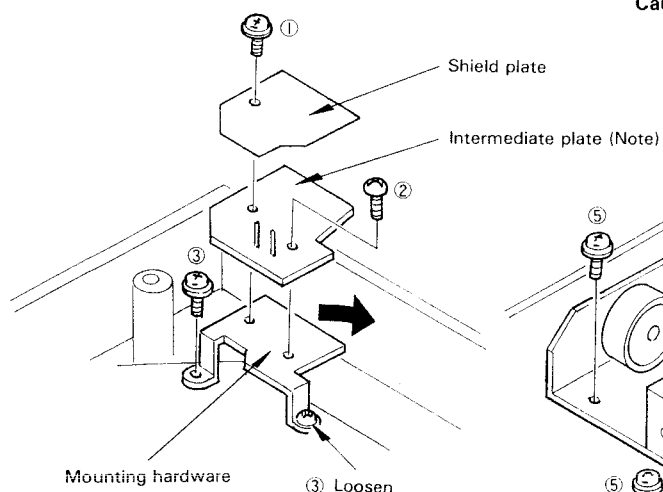
BLOCK DIAGRAM / DISASSEMBLY FOR REPAIR



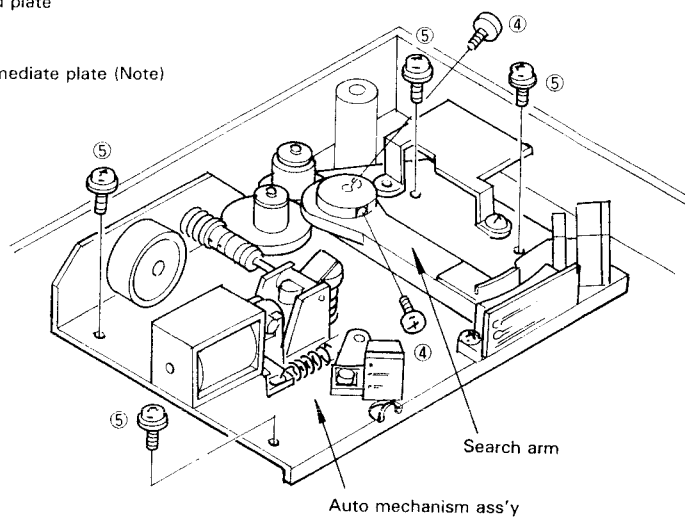
DISASSEMBLY FOR REPAIR

Disassembling auto mechanism and tonearm-related parts

1. Remove the shield plate retaining screw.
2. Remove the repeater PCB retaining screw.
3. Remove the mounting hardware.
4. Remove the search arm retaining screws.
5. Remove the auto mechanism retaining ass'y retaining screws.



Caution: The lead wire from the tonearm is soldered to the intermediate plate.

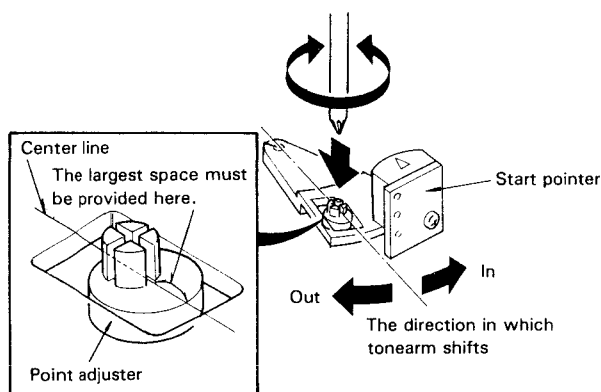


< Disassembling the auto mechanism >

ADJUSTMENT

1. Installing the start pointer and return holder

Install the start pointer and return holder so that the cross cut-off of the point adjuster is aligned with the center line passing through the rotational center as shown below.

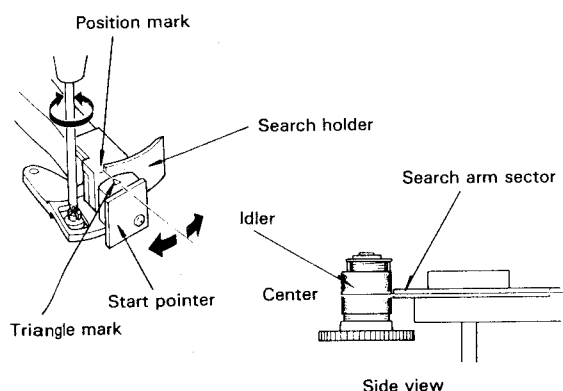


NOTE: Position the start pointer and return holder correctly, as the position of these parts are essential to determine the start and return positions.

2. Installing the search arm

1. Return the tonearm to the arm rest.
2. Center the start pointer (refer to the "Installing the start pointer and return holder").
3. Install the search arm so that the position mark of the search arm is aligned with the triangle mark of the start pointer.

NOTE: Install the search arm so that the end of the search arm sector contacts the idler center.

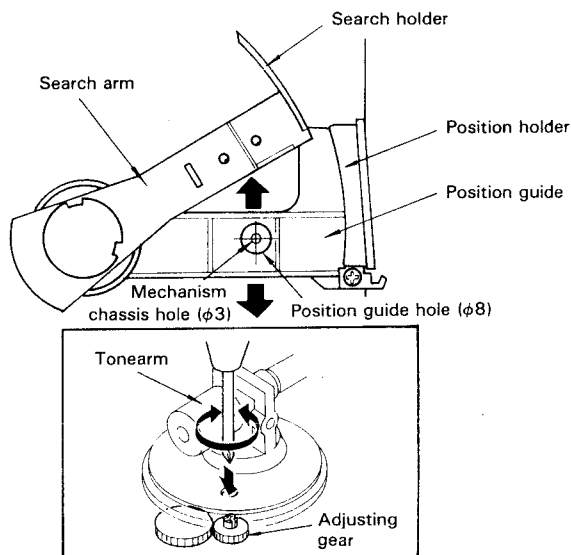


3. Position holder and guide

Before adjusting the position holder, align the position guide hole with the mechanism chassis hole.

Pass the +screwdriver through the tonearm base access hole and adjust the position holder. Turning the screwdriver clockwise shifts the tonearm inwards and turning the screwdriver counterclockwise shifts the tonearm outwards. Turning the screwdriver 60° will

shift the stylus tip by 0.85 mm. The position holder can be turned by 3.2 turns.

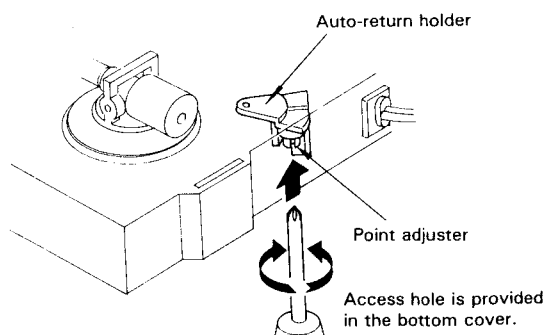


4. Adjusting the auto-in position

Adjust the auto-in in the 30 cm record auto-in mode. Put the turntable in the 30 cm record auto-in mode. Play back the test record. Adjust the auto-in adjusting gear through the tonearm base access hole so that the auto-in action starts at 26 ± 3 counts of the test record (refer to the "Position holder and guide").

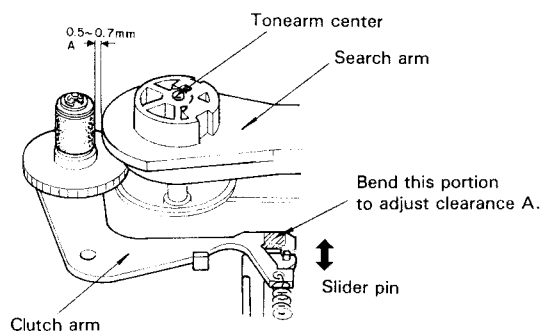
5. Adjusting the auto-return position

Use the test record to adjust the auto-return position as well as for auto-in adjustment. Adjust the point adjuster so that the auto-return action starts at the 17 count of the test record (through the access hole on the bottom cover).

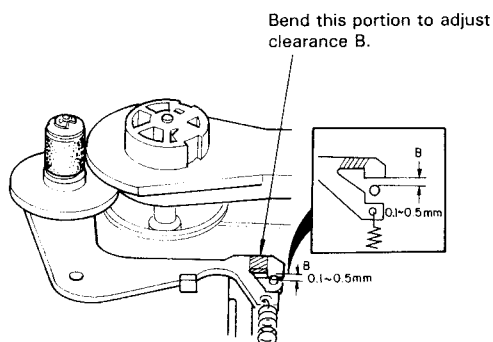


< Auto-return position adjustment >

6. Adjusting the clearance between the idler and clutch arm.



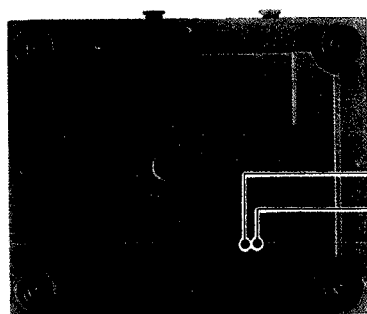
< Solenoid: OFF >



< Solenoid: ON >

7. Adjusting the motor speed

If the correct speed is not obtained by turning the fine speed adjustment knob, turn the PC trimming pots of the motor PCB. Always center the fine-speed adjustment knob before adjusting the PC trimming pots. When adjusting the PC trimming pots, make sure the turntable is level. **Access holes are provided in the bottom cover.**



< Positions of the speed adjustment access holes >

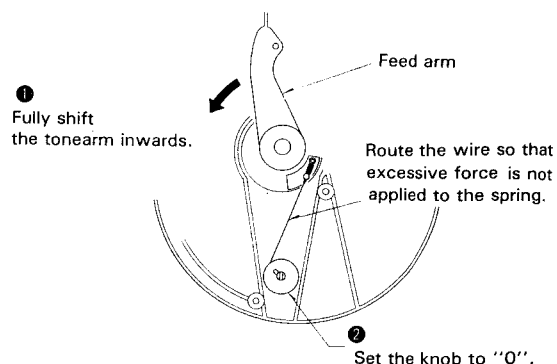
KENWOOD test record 3 (P-3027) (Part No.: T99-0204-05)

This test record is for auto lead-in and auto lead-out position adjustment and S/N measurement. In the KD-4100 (R), use the A side to adjust the auto-in and auto-out positions. The contents of this record are as shown below.

Band	Contents		Remarks
1	30 cm lead-in groove		Lead-in position adjustment
	L-ch: Announcement (1 ~ 65)	R-ch: 1 kHz	
2	25 cm lead-in groove		
	L-ch: Announcement (1 ~ 65)	R-ch: 1 kHz	
3	17 cm lead-in groove		
	L-ch: Announcement (1 ~ 65)	R-ch: 1 kHz	
4	30/17 cm lead-out groove		Lead-out position adjustment
	L-ch: Announcement (1 ~ 59)	R-ch: 315 Hz	

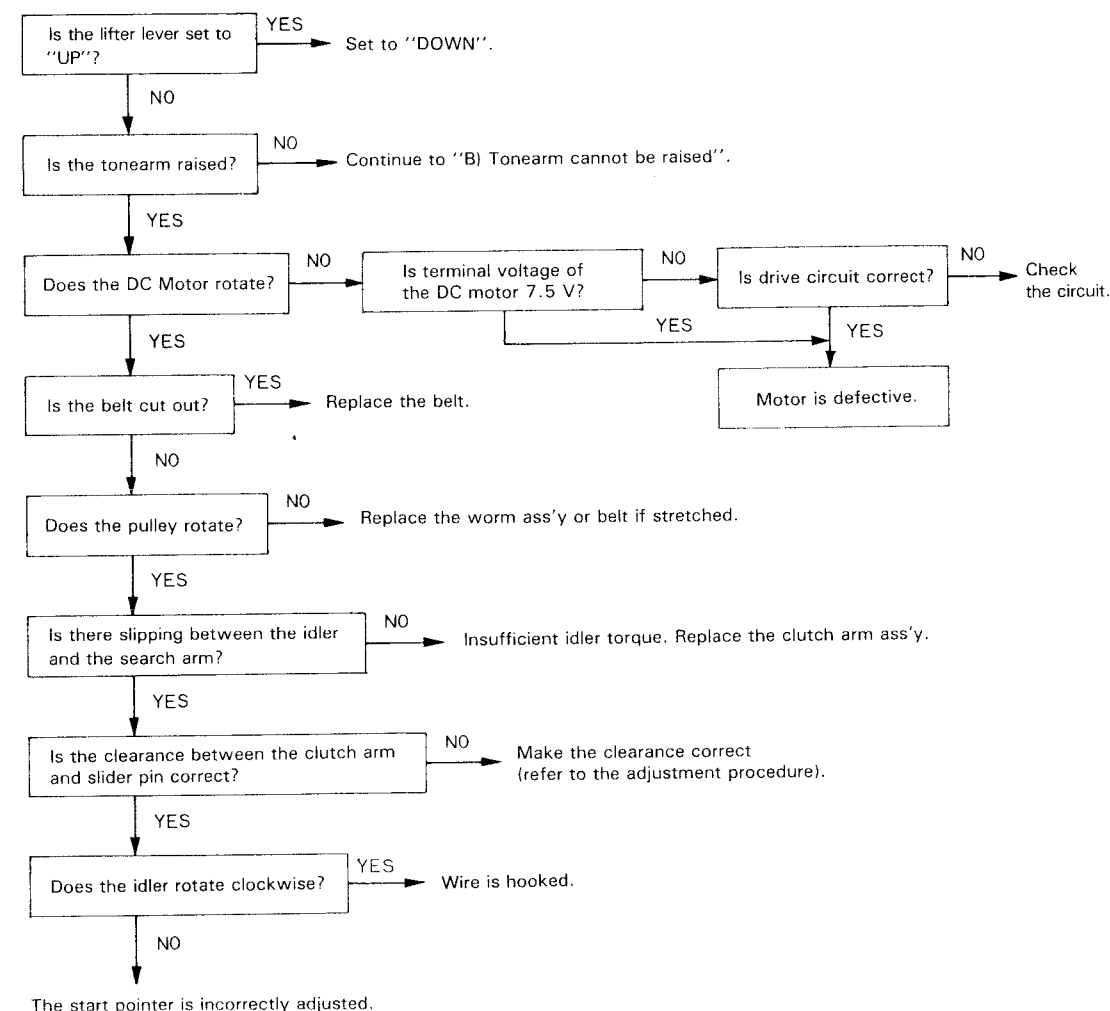
7. Adjusting the inside force canceller

1. Fully shift the tonearm inwards.
2. Route the inside force canceller wire so that excessive force is not applied to the canceller cam ass'y spring.
3. Set the canceller knob to "0". At this time, the condition indicated in item 2 must be maintained.

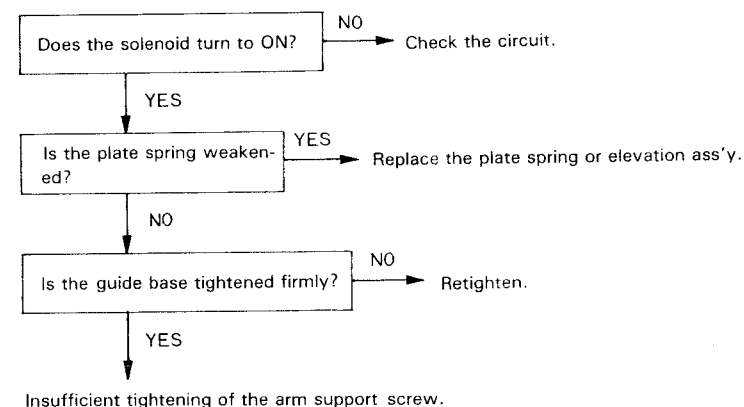


TROUBLESHOOTING

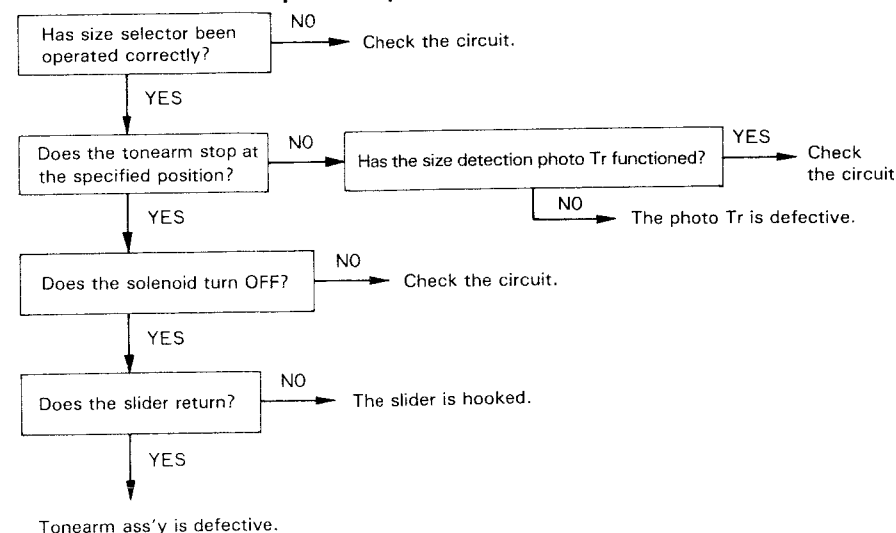
A) Auto start does not operate.



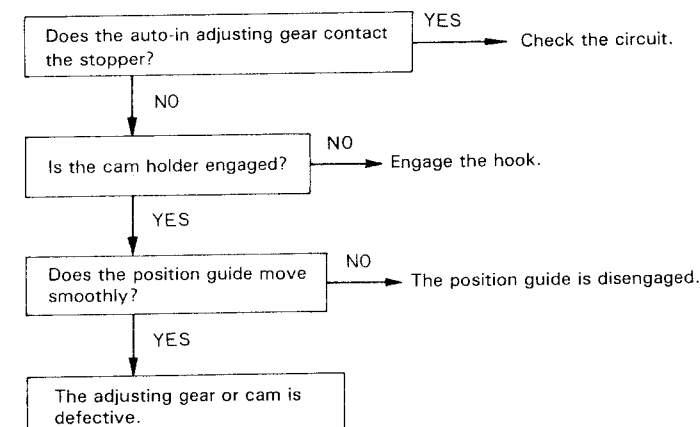
B) Tonearm cannot be raised.



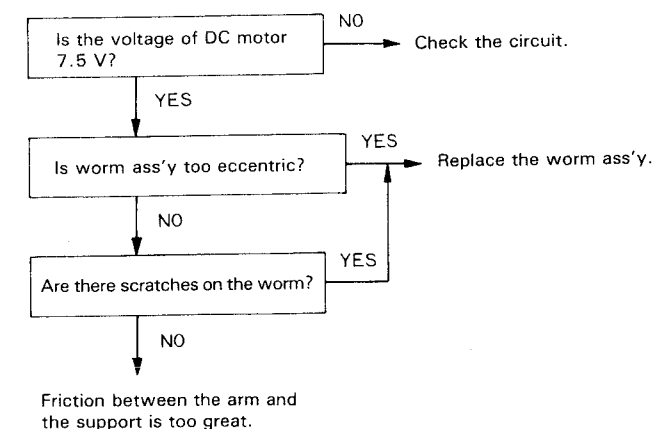
C) Auto lead-in cannot be started (the tonearm does not lower at the specified position.)



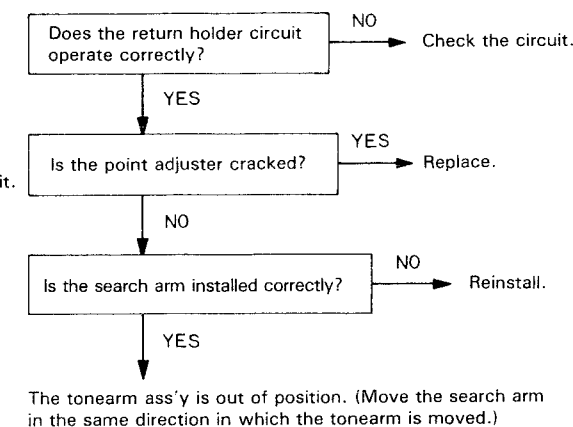
D) The auto-in position cannot be adjusted.



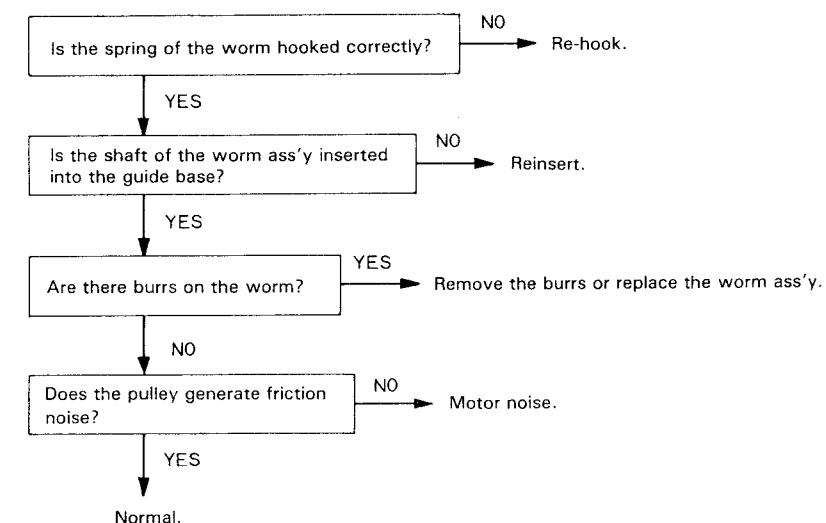
E) The tonearm is knocking.



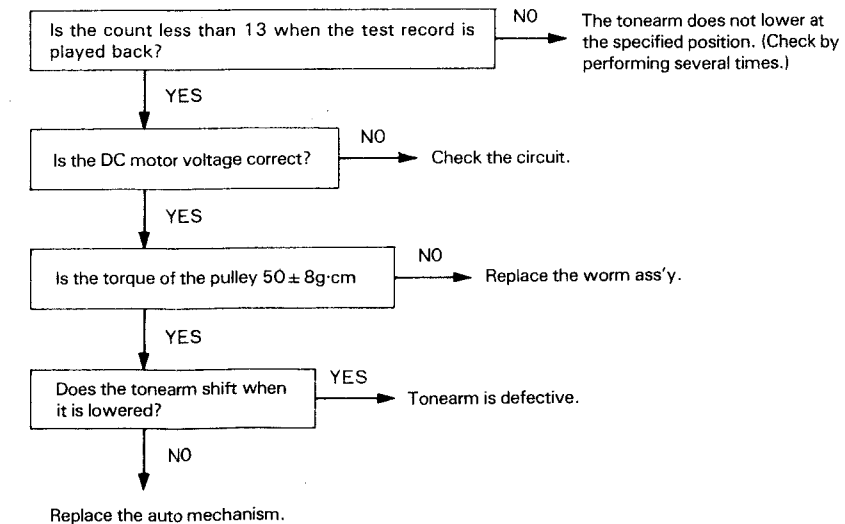
F) Auto-return position cannot be adjusted.



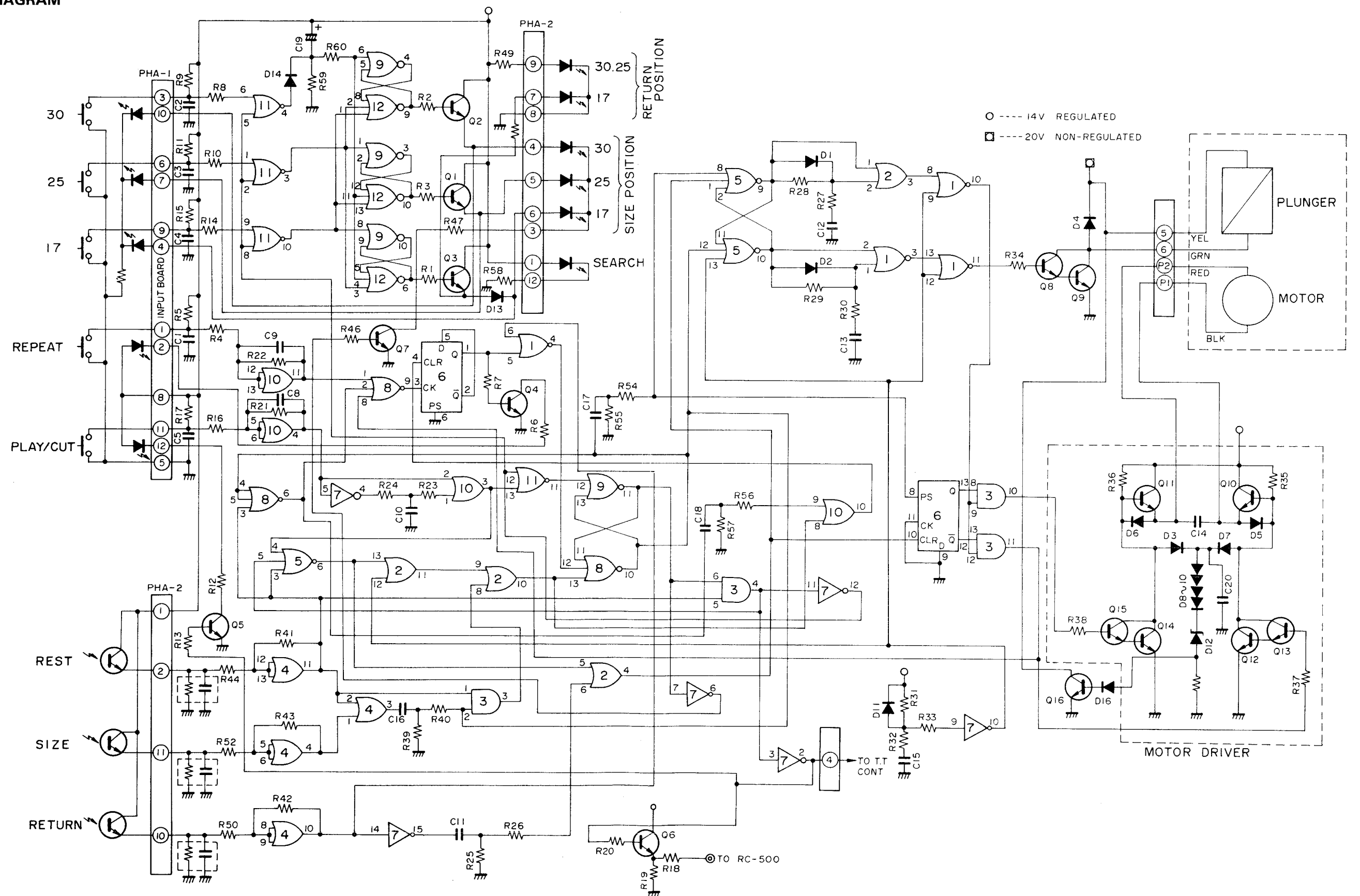
G) The DC motor generates abnormal noise.



H) There is too much difference between the auto-in and repeat-in.

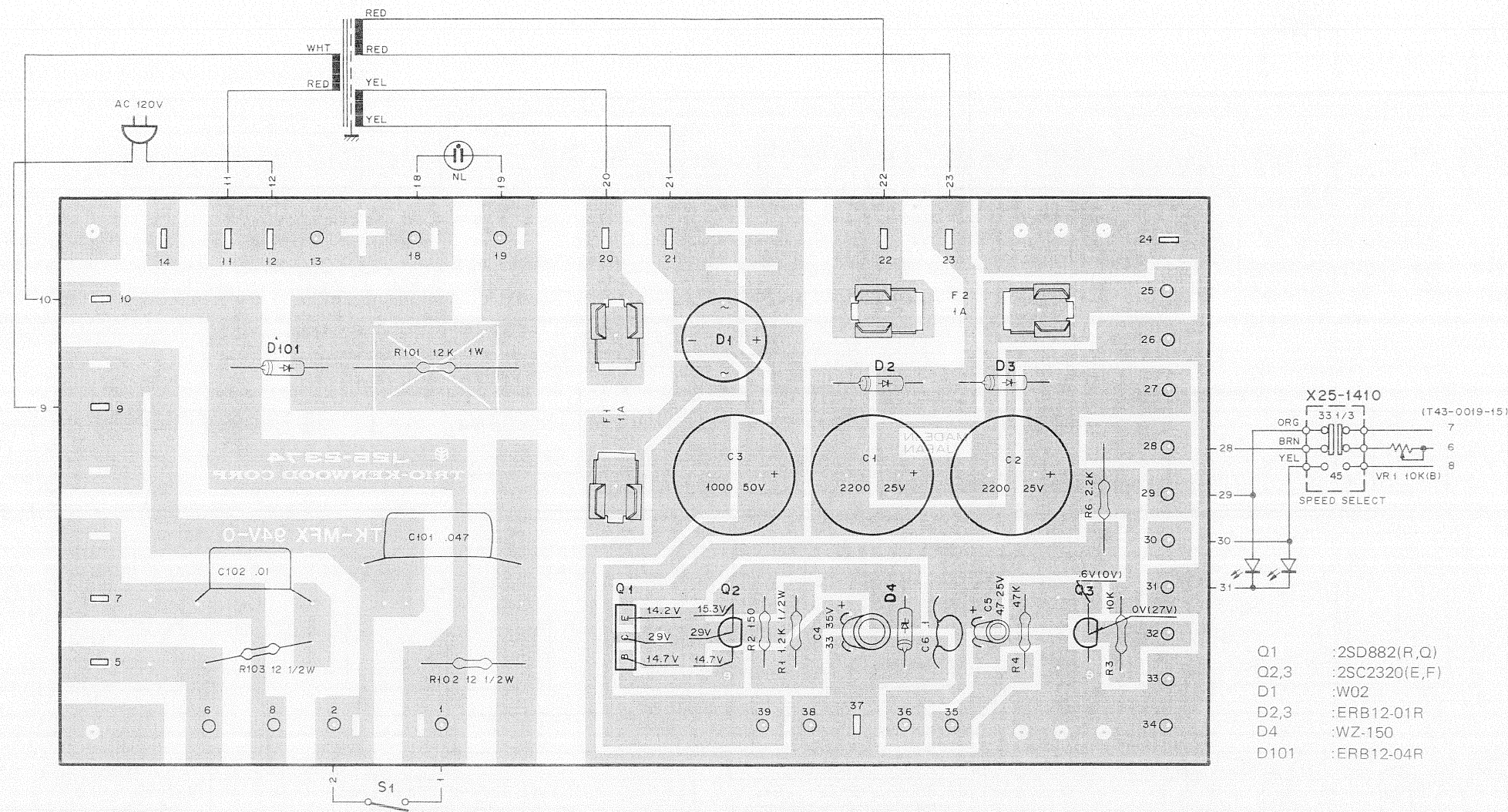


LOGIC DIAGRAM

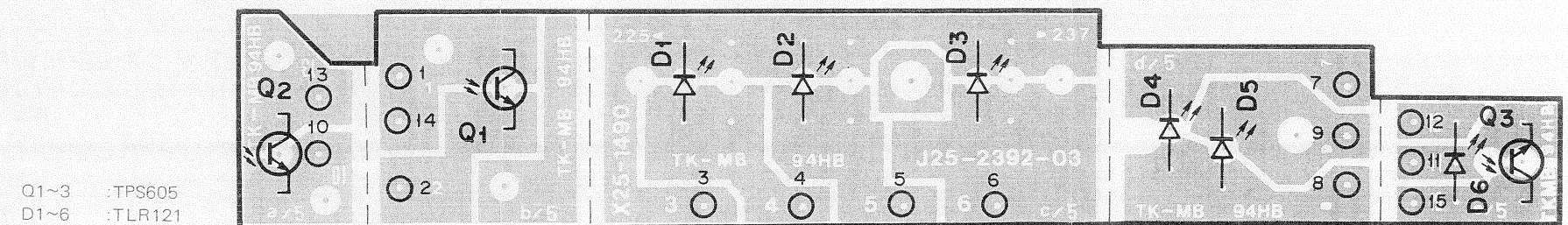


PC BOARD

POWER SUPPLY (X27-1370) Component side



SENSOR (X25-1490-00) Foil side

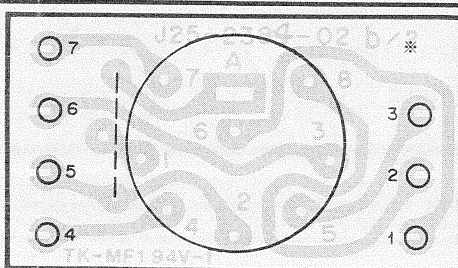


PC BOARD

CONTROL AMP (X29-1170) Component side

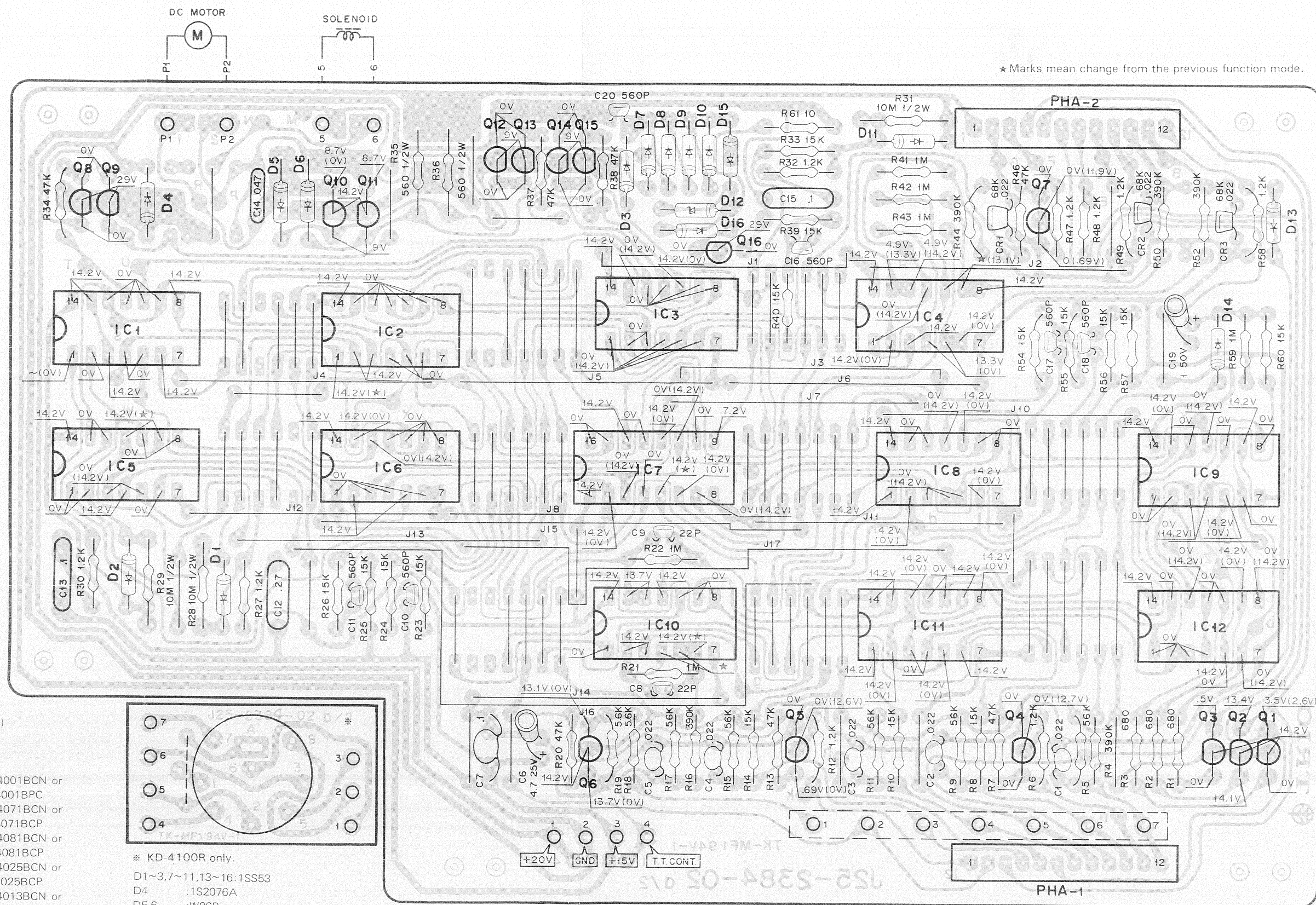
* Marks mean change from the previous function mode.

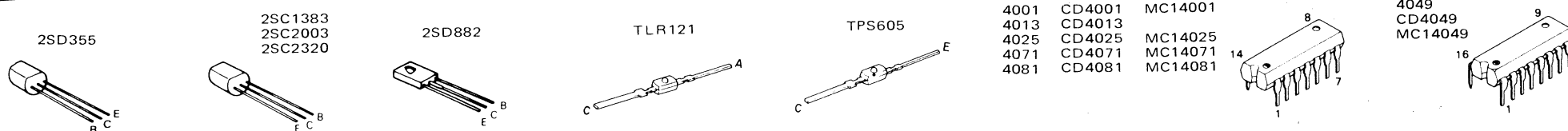
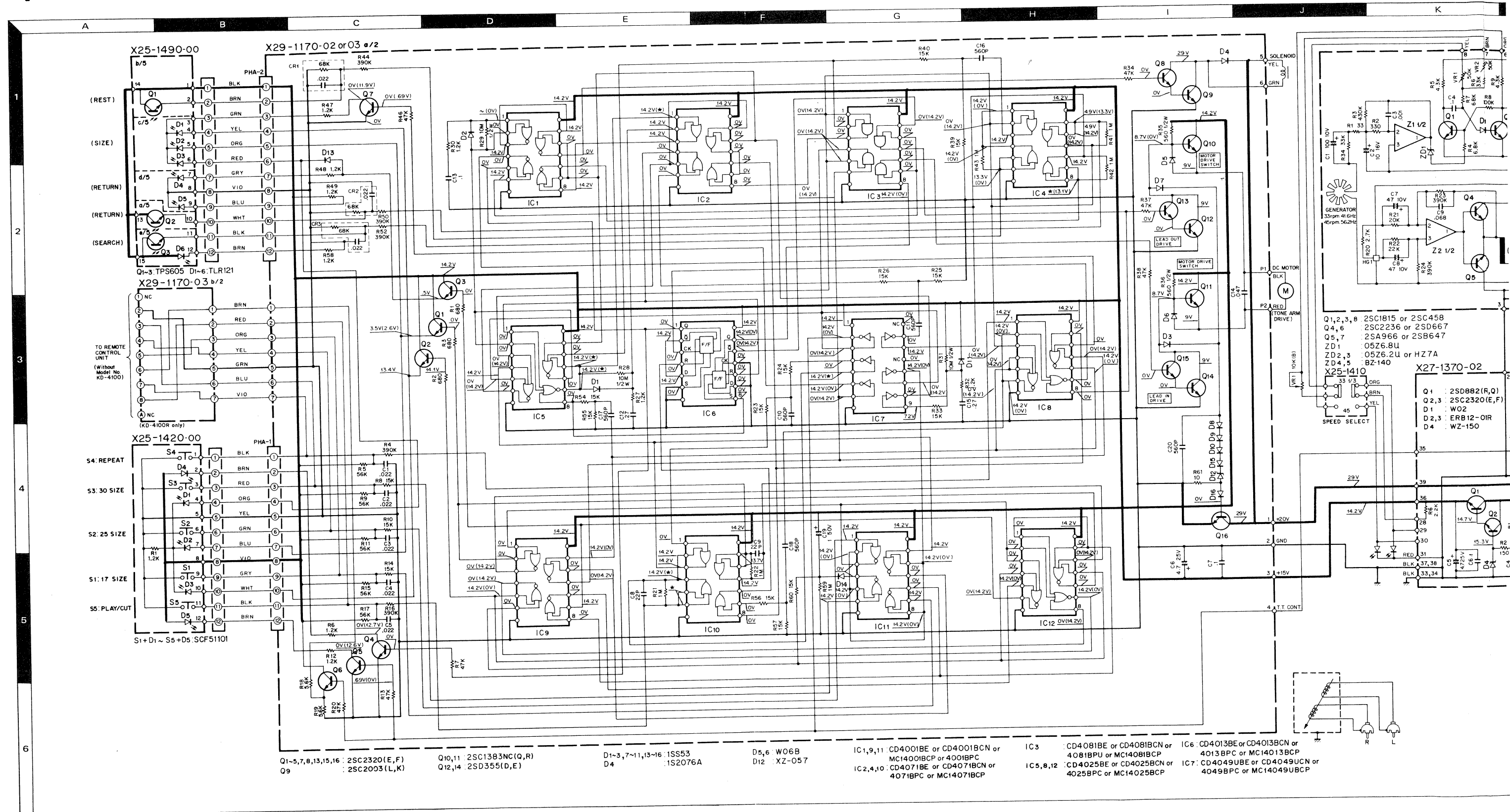
- Q1~8,13,15,16:2SC2320(E,F)
 Q9 :2SC2003(L,K)
 Q10,11 :2SC1383NC(Q,R)
 Q12,14 :2SD355(D,E)
 IC1,9,11 :CD4001BE or CD4001BCN or
 MC14001BCP or 4001BPC
 IC2,4,10 :CD4071BE or CD4071BCN or
 4071BPC or MC14071BCP
 IC3 :CD4081BE or CD4081BCN or
 4081BPU or MC14081BCP
 IC5,8,12 :CD4025BE or CD4025BCN or
 4025BPC or MC14025BCP
 IC6 :CD4013BE or CD4013BCN or
 4013BPC or MC14013BCP
 IC7 :CD4049UBE or CD4049UCN or
 4049BPC or MC14049UBCP



* KD-4100R only.

- D1~3,7~11,13~16:1SS53
 D4 :1S2076A
 D5,6 :W06B
 D12 :XZ-057





FULL AUTOMATIC DIRECT-DRIVE TURNTABLE

(KD-4100R) KD-4100

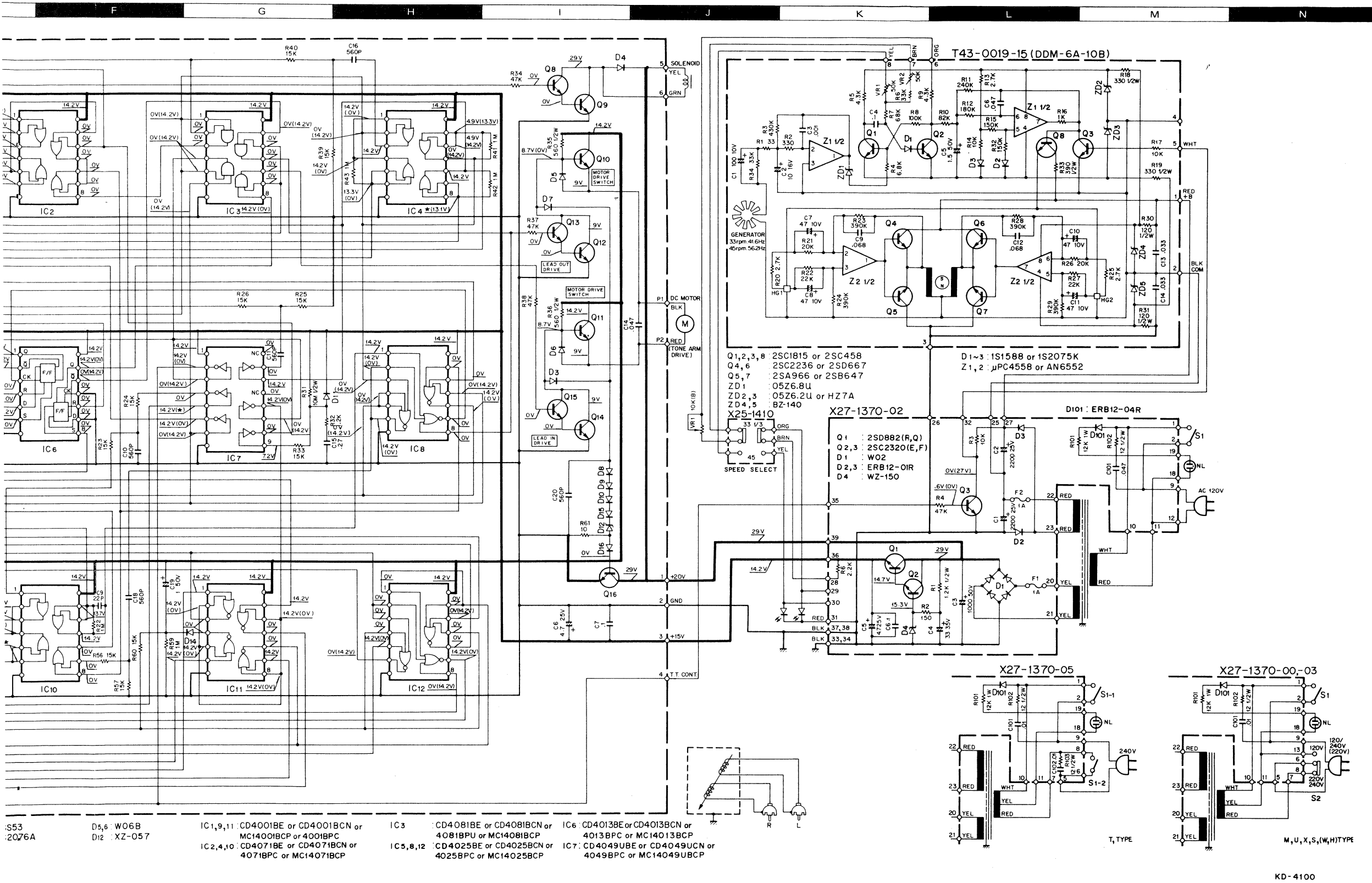


SPECIFICATIONS

MOTOR & TURNTABLE	
Drive System	Direct-Drive
Motors	Coreless & Slotless DC Servo Motor (For Platter Drive), 2-Pole, 3-Slot DC Micro-Motor (For Automatic Functions)
Turntable Platter	31 cm (12-3/16") Diameter, Aluminum Alloy Die-Cast, Weight 1.15 kg (2.54 lbs)
Speeds	2 Speeds, 33-1/3 and 45rpm.
Speed Control Range	Within $\pm 3\%$
Wow & Flutter	Less than 0.03% (WRMS)
Rumble	DIN weighted better than -71 dB
TONEARM	
Type	Static-Balance Type, S-Shaped Tubular Arm, EIA Plug-in Connector.
Effective Tonearm Length	225 mm (8-7/8")
Overhang	15 mm (9/16")
Tracking Error	± 1.5 Degrees
Stylus Pressure Variable Range	0 to 3 grams
Usable Cartridge Weight	3 to 9 grams (with supplied headshell)
CARTRIDGE	
(U.S.A., Canada and U.K. Models are not equipped with the V-39MKIII Cartridge.)	
Furnished Cartridge	V-39MKIII (Moving Magnet Type)
Stylus	N-39MKIII with 0.5 mil Diamond
Frequency Response	20 Hz to 20,000 Hz
Output Voltage	2.3 mV (1,000 Hz, 5 cm/sec.)
Optimum Tracking Force	1.5 \pm 0.3, -0 gram
Load Impedance	47 kohms
Replacement Stylus	N-39MKIII
ADDITIONAL FEATURES	Electronically Controlled Full-Automatic Tonearm System (Automatic Lead-in/Return/Cut/Repeat), Illuminated Stroboscope, Anti-Skating Device, Oil-Damped Cueing Device, Speed Selector Switch with LED Indicators, Low Capacitance Phono Cables, Headshell and 45 rpm Adaptor Stand, Stylus Pressure Direct Readout Counter, Built-in Insulators.

MISCELLANEOUS	
Power Requirements	AC 120 V, 60 Hz...U.S.A. and Canada Models AC 240 V, 50 Hz...U.K. Model AC 120 V/220 V, 50/60 Hz (Switchable)...European and Military Models AC 120 V/240 V, 50/60 Hz (Switchable)...other countries
Power Consumptions	7.0watts...U.S.A. and Canada Models 20.0 watts...Other countries
Dimensions	W440mm x H140mm x D375mm W17-5/16" x H5-1/2" x D14-3/4"
Weight	7.9 kg (17.4 lbs)
SUPPLIED ACCESSORY	45 rpm Adaptor
CABINET	
Material	Construction of the cabinet is of Anti-Resonance Compression Base (ARCB) with injection molded ABS copolymer resin bottom cover. Massive ARCB is compression molded from limestone powder and glass powder, bonded with polyester resin.

Note: Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.



★ Marks mean change from the previous function mode.

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名/規格	Re- marks 備考	Ref. No. 参照番号	Parts No. 部品番号	Description 部品名/規格	Re- marks 備考
UNIT (KD-4100)				24 1A	D32-0080-24	SWITCH STOPPER	WH
1 2A	-	SUB CHASSIS		25 2B	D40-0459-05	MECHANISM ASSY	*
2 2A	-	INDICATOR (STROBE)		26 1B	E30-0181-05	POWER CORD	KP
3 2A	-	MOUNTING HARDWARE (LAMP)		26 1B	E30-0459-05	POWER CORD	WH
4 2B	-	SWITCH MECHANISM ASSY		26 1B	E30-0587-05	POWER CORD	ST
5 2A	-	PUSH LOCK		26 1B	E30-1317-15	POWER CORD	MU
6 2A	-	SWITCH ARM		26 1B	E30-1341-05	POWER CORD	*X
7 2B	-	SHAFT		27 1B	E30-1319-15	AUDIO CORD	MP
8 1A	-	CUSHION ASSY		27 1B	E30-1319-15	AUDIO CORD	UX
9 1A	-	HOLE PLATE		27 1B	E30-1319-15	AUDIO CORD	SW
10 1B	-	L SHAPED COVER 4100		27 1B	E30-1319-15	AUDIO CORD	HT
11 1B	-	REMOTE MOUNT METAL 4100R		27 1B	E30-1320-25	AUDIO CORD	K
12 3B	-	SHIELDING PLATE		28 1A	F07-0610-04	COVER	KP
13 1B	-	CUSHION		28 1A	F07-0610-04	COVER	T
14 2B	A02-0322-05	PLASTIC CABINET 4100	*M	29 1A	F07-0657-04	MOTOR COVER	
14 2B	A02-0322-05	PLASTIC CABINET 4100	KP	30 2B	F19-0504-04	HOLE CAP	
14 2B	A02-0322-05	PLASTIC CABINET 4100	UX	F1 22	F05-1023-05	FUSE (1A)	MU
14 2B	A02-0322-05	PLASTIC CABINET 4100	SW	F1 22	F05-1023-05	FUSE (1A)	XS
14 2B	A02-0322-05	PLASTIC CABINET 4100	H	F1 22	F05-1024-05	FUSE (1A)	KP
14 2B	A02-0324-05	PLASTIC CABINET 4100	*T	F1 22	F05-8012-05	FUSE (800MA)	WH
14 2B	A02-0326-05	PLASTIC CABINET 4100R	*M	F1 22	F05-8012-05	FUSE (800MA)	T
14 2B	A02-0326-05	PLASTIC CABINET 4100R	KP	F2	F06-1021-05	FUSE (1A)	WH
14 2B	A02-0326-05	PLASTIC CABINET 4100R	UX	F2	F06-1021-05	FUSE (1A)	T
14 2B	A02-0326-05	PLASTIC CABINET 4100R	SW	31 1A	G16-0330-03	TURNTABLE SHEET ASSY	MP
14 2B	A02-0326-05	PLASTIC CABINET 4100R	H	31 1A	G16-0330-03	TURNTABLE SHEET ASSY	UX
14 2B	A02-0327-05	PLASTIC CABINET 4100R	*T	31 1A	G16-0330-03	TURNTABLE SHEET ASSY	SW
15 2A	A21-0675-24	DRESSING PANEL ASSY		31 1A	G16-0330-03	TURNTABLE SHEET ASSY	HT
16 2A	A21-0678-13	DRESSING PANEL ASSY	*	31 1A	G16-0331-03	TURNTABLE SHEET ASSY	K
17 3A	A40-0535-52	BOTTOM PLATE	MP	-	H01-2365-14	CARTON BOX 4100	*M
17 3A	A40-0535-52	BOTTOM PLATE	UX	-	H01-2365-14	CARTON BOX 4100	KU
17 3A	A40-0535-52	BOTTOM PLATE	SW	-	H01-2365-14	CARTON BOX 4100	XS
17 3A	A40-0536-32	BOTTOM PLATE	HT	-	H01-2365-14	CARTON BOX 4100	H
18 1B	A53-0223-12	TURNTABLE COVER ASSY	K	-	H01-2366-14	CARTON BOX 4100	P
-	B46-0055-20	WARRANTY CARD	P	-	H01-2367-14	CARTON BOX 4100	W
-	B46-0060-00	WARRANTY CARD	T	-	H01-2368-14	CARTON BOX 4100	T
-	B46-0061-20	WARRANTY CARD	K	-	H01-2370-04	CARTON BOX 4100R	MK
-	B46-0062-20	WARRANTY CARD	UH	-	H01-2370-04	CARTON BOX 4100R	UX
-	B46-0063-00	WARRANTY CARD	U	-	H01-2370-04	CARTON BOX 4100R	SH
-	B46-0064-10	WARRANTY CARD	X	-	H01-2371-04	CARTON BOX 4100R	P
-	B50-2346-00	INST. MANUAL 4100	*M	-	H01-2372-04	CARTON BOX 4100R	W
-	B50-2346-00	INST. MANUAL 4100	PX	-	H01-2373-04	CARTON BOX 4100R	T
-	B50-2348-00	INST. MANUAL 4100	*K	-	H10-2246-02	POLYSTYRENE FIXTURE A	
-	B50-2348-00	INST. MANUAL 4100	US	-	H10-2247-02	POLYSTYRENE FIXTURE B	
-	B50-2348-00	INST. MANUAL 4100	WH	-	H10-2248-02	POLYSTYRENE FIXTURE C	
-	B50-2349-00	INST. MANUAL 4100	*T	-	H12-0347-02	PACKING FIXTURE A	*
-	B50-2350-00	INST. MANUAL 4100R	*M	-	H12-0348-04	PACKING FIXTURE	
-	B50-2350-00	INST. MANUAL 4100R	PX	-	H12-0354-04	PACKING FIXTURE B	
-	B50-2351-00	INST. MANUAL 4100R	KU	-	H20-0382-04	COVER	KP
-	B50-2351-00	INST. MANUAL 4100R	SW	-	H20-0382-04	COVER	UX
-	B50-2351-00	INST. MANUAL 4100R	H	-	H20-0382-04	COVER	SW
-	B50-2352-00	INST. MANUAL 4100R	T	-	H25-0029-04	BAG	HT
-	B59-0018-00	SERVICE STATIONS LIST	U	-	H25-0078-04	BAG	
19 1A	B23-0004-04	OVERHANG GAGE	KP	-	H25-0159-04	BAG	M
19 1A	B23-0004-04	OVERHANG GAGE	T	32 3B	J02-0331-05	FOOT	MP
20 2A	B30-0724-05	LAMP	*	32 3B	J02-0331-05	FOOT	UX
21 2A	B38-0211-05	DISPLAY ASSY (LED)		32 3B	J02-0331-05	FOOT	SW
22 1A	D02-0028-05	TURNTABLE PLATTER		32 3B	J02-0331-05	FOOT	WH
23 1A	D09-0202-04	STROBOSCOPE		32 3B	J02-0331-05	FOOT	K
24 1A	D32-0080-24	SWITCH STOPPER	MU	33 2A	J19-1935-04	HOLDER (LAMP)	*
24 1A	D32-0080-24	SWITCH STOPPER	XS				

PARTS LIST

Ref. No.	Parts No.	Description	Re- marks	Ref. No.	Parts No.	Description	Re- marks
参照番号	部品番号	部品名 / 規格	備考	参照番号	部品番号	部品名 / 規格	備考
34 2R	J42-0312-05	BUSHING (A)		56 2A	X25-1410-00	SWITCH PCB ASSY	*
35 1B	J42-0313-05	BUSHING (B)		57 2A	X25-1420-00	OPERATION PCB ASSY	*
36 1B	J50-0307-05	HINGE (1)		58 3B	X25-1490-00	SENSOR PCB ASSY	*
37 1R	J50-0308-05	HINGE (2)		59 2E	X25-1510-00	REPEATER PCB ASSY	*
38 1B	J91-0127-05	TONEARM ASSY	*	60 2A	X27-1370-00	POWER SUPPLY PCB ASSY	*M
39 1B	J92-0057-05	HEAD SHALL		60 2A	X27-1370-00	POWER SUPPLY PCB ASSY	UX
40 1B	J92-0058-05	HEAD SHALL ASSY	KP	60 2A	X27-1370-00	POWER SUPPLY PCB ASSY	S
40 1B	J92-0058-05	HEAD SHALL ASSY	T	60 2A	X27-1370-02	POWER SUPPLY PCB ASSY	K
				60 2A	X27-1370-03	POWER SUPPLY PCB ASSY	WH
				60 2A	X27-1370-04	POWER SUPPLY PCB ASSY	P
41 2A	K23-0638-04	KNOB (SPEED)		60 2A	X27-1370-05	POWER SUPPLY PCB ASSY	T
42 2A	K27-0317-14	KNOB (RPM)		61 3B	X29-1170-00	CONT AMP ASSY 4100R	*M
43 2A	K29-0667-24	KNOB ASSY (SELECTOR)	*	61 3B	X29-1170-00	CONT AMP ASSY 4100R	UX
				61 3B	X29-1170-00	CONT AMP ASSY 4100R	Sw
44 1A	L01-6251-05	POWER TRANSFORMER	*K	61 3B	X29-1170-00	CONT AMP ASSY 4100R	HT
44 1A	L01-6251-05	POWER TRANSFORMER	P				
44 1A	L01-6254-05	POWER TRANSFORMER	MU				
44 1A	L01-6254-05	POWER TRANSFORMER	XS	61 3B	X29-1170-01	CONT AMP ASSY 4100	*K
44 1A	L01-6254-05	POWER TRANSFORMER	WH	61 3B	X29-1170-01	CONT AMP ASSY 4100	UX
				61 3B	X29-1170-01	CONT AMP ASSY 4100	Sw
44 1A	L01-6254-05	POWER TRANSFORMER	T	61 3B	X29-1170-01	CONT AMP ASSY 4100	HT
				61 3B	X29-1170-02	CONT AMP ASSY 4100	*K
45 1A	N09-0167-05	SCREW	WH	61 3B	X29-1170-02	CONT AMP ASSY 4100	P
46 2B	N09-0195-04	SCREW	WH	61 3B	X29-1170-03	CONT AMP ASSY 4100R	*K
46 2B	N09-0275-04	SCREW (M3X25)	T	61 3B	X29-1170-03	CONT AMP ASSY 4100R	P
46 2B	N30-3014-46	PAN HEAD MACHINE SCREW		62 3B	S46-2308-03	MOUNTING SWITCH	
47 1B	N09-0843-08	SCREW (M2.6X12)	MU	SWITCH PCB ASS'Y (X25-1410-00)			
47 1B	N09-0843-08	SCREW (M2.6X12)	XS	101 2A	S40-2307-05	PUSH SWITCH	S1
47 1B	N09-0850-04	SCREW (M2.6X10)	WH	OPERATION PCB ASS'Y (X25-1420-00)			
47 1B	N09-0850-04	SCREW (M2.6X10)	KP	201 2A	S59-1302-05	SWITCH S1-5	*
47 1B	N09-0851-04	SCREW (M2.6X15)	T	SENSOR PCB ASS'Y (X25-1490-00)			
47 1B	N09-0851-04	SCREW (M2.6X15)	KP	01 -6	V11-3100-60	TLR121	*
				01 -3	V30-0386-10	TPS605	*
47 1B	N09-0851-04	SCREW (M2.6X15)	T	POWER SUPPLY PCB ASS'Y (X27-1370)			
48 2B	N14-0108-05	NUT	MU	C1 2	C24-1422-89	ELECTRO 2200UF 25WV	*
48 2B	N14-0108-05	NUT	XS	C3	C24-1710-89	ELECTRO 1000UF 50WV	
48 2B	N14-0108-05	NUT	WH	C4	C24-6533-61	ELECTRO 33UF 35WV	
48 2B	N14-0412-04	NUT	KP	C5	C24-1447-51	ELECTRO 4.7UF 25WV	
				C6	C90-0270-05	CERAMIC 0.1UF K	
48 2B	N14-0412-04	NUT	T	C101	C54-3310-39	CERAMIC 0.01UF P	WH
49 2B	N19-0175-09	WASHER	WH	C101, 102	C54-3310-39	CERAMIC 0.01UF P	T
49 2B	N19-0175-09	WASHER	KP	C101	C91-0302-05	CERAMIC 0.047UF K	K
49 2B	N19-0175-09	WASHER	T	C101	C91-0308-05	MF 0.01UF 1000V	MU
49 2B	N19-0516-05	WASHER	MU	C101	C91-0308-05	MF 0.01UF 1000V	XS
49 2B	N19-0516-05	WASHER	XS				
49 2B	N19-0516-05	WASHER	WH	C101	C91-0323-05	CERAMIC 0.047UF K	P
				-	J13-0055-05	FUSE HOLDER	
50 2A	R01-3301-05	POT. 10K(B) VR1		R101	R47-5412-35	FL-PROOF RS12K J 3A	
				R102	R40-8312-06	RC 12 K 2H	
51 1A	S31-2001-05	SLIDE SWITCH (S2)	MU	R102, 103	R40-8312-06	RC 12 K 2H	T
51 1A	S31-2001-05	SLIDE SWITCH (S2)	XS				
51 1A	S31-2001-05	SLIDE SWITCH (S2)	WH	D1	V11-2400-20	W02	
52 2B	S50-1015-05	SENSITIVE SWITCH (S1)	KP	D2 3	V11-7100-60	ERB12-01R	
52 2B	S50-1015-05	SENSITIVE SWITCH X2	T	D4	V11-0307-05	WZ-150	
				D101	V11-7100-70	ERB12-04R	
52 2B	S50-1015-05	SENSITIVE SWITCH (S1)	UX	G1	V04-0882-20	2SD882 (R,Q)	*
52 2B	S50-1015-05	SENSITIVE SWITCH (S1)	SW	Q2 3	V03-2320-10	2SC2320 (E,F)	
52 2B	S50-1015-05	SENSITIVE SWITCH (S1)	HM	CONTROL (X29-1170)			
52 2B	S50-1307-05	SENSITIVE SWITCH (S1)	KP	C1 -5	C55-1722-38	CERAMIC 0.022UF Z	
52 2B	S50-1307-05	SENSITIVE SWITCH (S1)	UX	C6	C24-1447-51	ELECTRO 4.7UF 25WV	
				C7	C90-0270-05	CERAMIC 0.1UF K	
52 2B	S50-1307-05	SENSITIVE SWITCH (S1)	SM	C8 9	C71-1722-05	CERAMIC 22PF J	
				C10 11	C52-1756-16	CERAMIC 560PF K	
53 2B	T21-0066-05	MAGNETIC CARTRIDGE ASSY	MU				
53 2B	T21-0066-05	MAGNETIC CARTRIDGE ASSY	XS				
53 2B	T21-0066-05	MAGNETIC CARTRIDGE ASSY	WH				
53a 2B	T21-0067-05	MAGNETIC CARTRIDGE	MU				
53a 2B	T21-0067-05	MAGNETIC CARTRIDGE	XS				
53a 2B	T21-0067-05	MAGNETIC CARTRIDGE	WH				
54 3A	T43-0019-15	DIRECT DRIVE MOTOR					
55 1A	W01-0057-14	EP ADAPTER					

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
C12	C45-1727-45	MYLAR 0.27UF J	
C13	C45-1710-45	MYLAR 0.1UF J	
C14	C55-1747-38	CERAMIC 0.047UF Z	
C15	C45-1727-45	MYLAR 0.027UF J	
C16 -18	C52-1756-16	CERAMIC 560PF K	
C19	C25-1710-57	LL-ELEC 1UF SUWV	
C20	C52-1756-16	CERAMIC 560PF K	
301 1B	E06-0801-05	DIN CONNECTOR 4100R	MU
301 1B	E06-0801-05	DIN CONNECTOR 4100R	WH
301 1B	E06-0801-05	DIN CONNECTOR 4100R	P
301 1B	E06-0801-05	DIN CONNECTOR 4100R	K
301 1B	E06-0801-05	DIN CONNECTOR 4100R	SA
CR1 -3	R90-0403-05	MULTIPLE COMPONENTS	*
R28 ,29	R92-0507-05	RC 10M J 2H	
R31	R92-0507-05	RC 10M J 2H	
R35 ,36	R43-1456-15	FL-PROOF RD560 J 2E	
D1 -3	V11-1200-80	1SS53	
D4	V11-0273-05	1S2076A	
D5 ,6	V11-0295-05	W06R	
D7 -11	V11-1200-80	1SS53	
D12	V11-4176-76	XZ-057	*
D13 -16	V11-1200-80	1SS53	
IC1	V30-0303-10	CD4001BE	
IC1	V30-0303-20	CD4001BCN	
IC1	V30-0378-10	MC14001BCP	*
IC1	V30-0385-10	4001BPC	*
IC2	V30-0368-10	CD4071BE	*
IC2	V30-0369-10	CD4071BCN	*
IC2	V30-0370-10	4071BPC	*
IC2	V30-0381-10	MC14071BCP	*
IC3	V30-0365-10	CD4081BE	*
IC3	V30-0366-10	4081BPC	*
IC3	V30-0367-10	CD4081BCN	*
IC3	V30-0377-10	MC14081BCP	*
IC4	V30-0368-10	CD4071BE	*
IC4	V30-0369-10	CD4071BCN	*
IC4	V30-0370-10	4071BPC	*
IC4	V30-0381-10	MC14071BCP	*
IC5	V30-0371-10	CD4025BE	*
IC5	V30-0372-10	CD4025BCN	*
IC5	V30-0373-10	4025BPC	*
IC5	V30-0379-10	MC14025BCP	*
IC6	V30-0319-30	MC14013BCP	*
IC6	V30-0374-10	CD4013BE	*
IC6	V30-0375-10	CD4013BCN	*
IC6	V30-0376-10	4013BPC	*
IC7	V30-0306-10	CD4049UBE	
IC7	V30-0306-20	CD4049UCN	
IC7	V30-0380-10	MC14049BCP	*
IC7	V30-0384-10	4049BPC	*
IC8	V30-0371-10	CD4025BE	*
IC8	V30-0372-10	CD4025BCN	*
IC8	V30-0373-10	4025BPC	*
IC8	V30-0379-10	MC14025BCP	*
IC9	V30-0303-10	CD4001BE	
IC9	V30-0303-20	CD4001BCN	
IC9	V30-0378-10	MC14001BCP	*
IC9	V30-0385-10	4001BPC	*
IC10	V30-0368-10	CD4071BE	*
IC10	V30-0369-10	CD4071BCN	*
IC10	V30-0370-10	4071BPC	*

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
IC10	V30-0381-10	MC14071BCP	*
IC11	V30-0303-10	CD4001BE	
IC11	V30-0303-20	CD4001BCN	
IC11	V30-0378-10	MC14001BCP	*
IC11	V30-0385-10	4001BPC	*
IC12	V30-0371-10	CD4025BE	*
IC12	V30-0372-10	CD4025BCN	*
IC12	V30-0373-10	4025BPC	*
IC12	V30-0379-10	MC14025BCP	*
Q1 -8	V03-2320-10	2SC2320(E,F)	
Q9	V03-2003-30	2SC2003(L,K)	
Q10 ,11	V03-1383-10	2SC1383NC(Q,R)	*
Q12	V04-0355-10	2SD355(D,E)	*
Q13	V03-2320-10	2SC2320(E,F)	
Q14	V04-0355-10	2SD355(D,E)	*
Q15 ,16	V03-2320-10	2SC2320(E,F)	
ONEARM ASS'Y (J91-0127-05)			
401 2B	D12-0215-08	SLIDE CAM ASSY	*
402 2B	D21-0679-08	ELEVATION SHAFT	
403 2B	D39-0090-08	ONEARM REST ASSY	
404 2B	D39-0091-08	ONEARM SUPPORT ASSY	*
405 2B	D40-0465-08	PAUSE MECHANISM ASSY	
406 2B	D91-0122-08	WEIGHT ASSY	*
407 2B	G01-0755-08	COMPRESSION SPRING	
408 2B	G02-0322-08	TENSION SPRING	
38 2B	J91-0127-05	ONEARM TOTAL ASSY	*

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
526 3B	-	SHAFT	
527 3B	-	GEAR	
528 3B	-	FELT	
529 3B	-	IDLER	
530 3B	-	TIER	
531 3B	-	GEAR	
532 3B	-	SEARCH ARM	
25 3B	D40-0459-05	MECHANISM ASSY	*
533 2B	D13-0205-08	GEAR ASSY	*
534 3B	D14-0217-08	IDLER ASSY	
535 3B	D15-0515-08	MOTOR PULLEY	*
536 3B	D16-0219-08	BELT	
537 3B	D40-0805-08	ELEVATION ARM ASSY	*
538 3B	D33-0007-08	FELT(A)	*
539 3B	G01-0722-08	COMPRESSION SPRING	
540 2B	G01-0723-08	COMPRESSION SPRING(A)	
541 3B	G01-0724-08	TENSION SPRING	
542 3B	G01-0725-08	TENSION SPRING(3)	*
543 3B	G01-0726-08	TENSION SPRING(2)	*
544 3B	G02-0319-08	FLAT SPRING	*
545 3B	G13-0458-04	MOTOR CUSHION	*
546 3B	J19-1918-08	SEARCH HOLDER	*
547 3B	N09-0869-08	SCREW	
548 2B	N09-0870-08	SCREW	
549 3B	N19-0584-08	WASHER	
550 3B	N19-0561-08	RUBBER WASHER	
551 2B	N19-0565-08	WASHER	
553 3B	N19-0567-08	WASHER	
554 3B	N29-0215-08	SPRING STOPPER	
555 2B	N15-1030-46	FLAT WASHER	
556 3B	N19-0540-08	WASHER	
557 3B	T42-0107-05	DC MOTOR	*
558 3B	T94-0058-05	MAGNETIC PLUNGER	*
58 3B	X25-1490-00	SENSOR PCB ASSY	*

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名/規格	Re- marks 備考
②			
①	14 3A	A20-1391-13	FRONT PANEL PANEL
	14 3A	A20-1417-13	FRONT PANEL ASSY
	15 3A	A21-0302-03	DRESSING PANEL
	15 3A	A21-0302-03	DRESSING PANEL
	15 3A	A21-0302-03	DRESSING PANEL
⑤	C1 C2	C54-3310-39	CERAMIC 0.01UF P
	C1	C90-0145-05	POLYESTER 0.01UF AC125V
	C1	C91-0023-05	CERAMIC 0.01UF AC250V
	C1	C91-0023-05	CERAMIC 0.01UF AC250V
	C1	C91-0025-05	CERAMIC 0.01UF AC125V
	28 1E	D15-0155-13	PULLEY
	29 1E	D15-0156-13	PULLEY
	30 2A	D15-0170-14	PULLEY
	31 2A	D20-0144-03	DIAL SHAFT

- ① Exploded view drawing No.
 ② Position in exploded view.
 ③ Symbol of new parts
 ④ Area to which parts are shipped. Example: A20-1390-13 is the part No. of FRONT PANEL ASS'Y for the "K" type products (for U.S.A.).

When this column is blank, it means that the same type of parts (same parts No.) are used for the products shipped to all areas.

CODEs in X11-1590

K: X11-1590-11
 U: X11-1590-81
 P: X11-1591-01
 T: X11-1591-51
 E: X11-1592-71

- ⑤ Reference No. in schematic diagram.
 ⑥ Abbreviation of "ceramic capacitor".
 All capacitors and resistors are listed using abbreviations.
 ⑦ Abbreviations

* Abbreviations of capacitors (Parts No. with initial letter "C").

ELECTRO Electrolytic capacitor
 LL-ELEC Low leak electrolytic capacitor
 NP-ELEC Non-pole electrolytic capacitor
 MICA Mica capacitor
 POLYSTY Polystyrene capacitor
 MYLAR Mylar capacitor
 CERAMIC Ceramic capacitor
 TANTAL Tantalum capacitor
 MF Metallized film capacitor
 OIL Oil capacitor
 The unit "UF" is used in lieu of "μF".

* Abbreviations of resistors (Parts No. with initial letters "R").

RC Carbon composition resistor
 RD Carbon film resistor
 FL-PROOF RD Flame-proof carbon film resistor
 RW Wire wound power resistor
 FL-PROOF RS Flame-proof metal oxide film resistor
 RN Metal film resistor
 2B Rated wattage 1/8W

2E Rated wattage 1/4W
 2H Rated wattage 1/2W
 3A Rated wattage 1W
 3D Rated wattage 2W
 3F Rated wattage 3W
 3G Rated wattage 4W
 3H Rated wattage 5W

All resistor values are indicated with the unit (Ω) omitted.

* Abbreviations common to capacitors and resistors.

C ±0.25pF (Used for capacitors only)
 D ±0.5pF (Used for capacitors only)
 F ±1%
 G ±2%
 J ±5%
 K ±10%
 M ±20%
 Z +80%, -20% (Used for capacitors only)
 P +100%, -0% (Used for capacitors only)

- ⑧ Resistors RD (carbon composition resistors) are not listed in the parts list. For values, refer to the schematic diagram.

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

Region	Code
U.S.A.	K
Canada	P
PX	U
Australia	X
Europe	W
England	T
South Africa	S
Other Areas	M
Audio Club	H

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